Changes to Building and Wood Treatment Standards

Jeanette Drysdale

Legislation & regulation

- Building Act 2004
- Building Code 1992
  - Performance-based
  - 35 Technical Clauses
  - Clause B2 Durability
  - Contains Acceptable Solutions & Verification Methods
- Compliance Documents
  - Issued by Department of Building & Housing
  - 15 Documents
  - ‘Alternative’ solutions – may be minor variations or very different/new products
Standards

If a product meets a Standard then it can be deemed to comply ("acceptable solution") under the NZ Building Code provided the Department of Building & Housing agree.

An example

- NZS 3604: 2011 *Timber-framed Buildings*

- The Department of Building & Housing has changed both the B1 Structure & E2 Moisture Building Code documents to reference this Standard.
NZS 3640  *Chemical Preservation of Round and Sawn Timber*

- Replaced NZMP 3640: 1992
- Issued in 2003
  - Introduced hazard class H1.2
  - Split hazard class 3 into H3.1 and H3.2
- Subsequent amendments
  - LOSP azole included for H3.1
  - Other treatments for H3.2, H4, H5
  - Boron approved for H3.1 (painted)
  - Copper naphthenate (lower retention) for H3.1

---

**NZS 3640 : Amendment 5**

- Last technical amendment (new preservative treatments approved) was in August 2006
- Subsequently NZS 3640 was to be reviewed (as part of bigger project initiated by the DBH)
- In the last 5 years there has become a ‘back log’ of applications
- The Amendment 5 project was initiated at the end of 2011 but has a limited scope
- Funding from applicants
NZS 3640: Amendment 5 Time-line

- NZS3640 Committee established [December 2011] ✓
- Technical working group assessed applications [January 2012] ✓
- NZS3640 Committee reviewed recommendations and draft Amendment 5 prepared [February – March 2012] ✓
- Public comment period [15 March – 9 May 2012] ✓
- Review of public comment submissions [June 2012]
- Ballot vote [July 2012]
- SANZ Council approval, final edit and publish [July 2012]

Amendment 5 – Scope

- Applications for:
  - Water-based azole (propiconazole + tebuconazole + permethrin) for H1.2 and H3.1
  - Micronised copper for copper quaternary and copper azole formulations
  - Didecyldimethyl ammonium carbonate/bicarbonate as an alternative to didecyldimethyl ammonium chloride (DDAC)
  - Allowing dearomatised white spirit (light organic solvent)
  - Include methylene chloride as a solvent
Amendment 5 – Scope cont’d

- A combination glue-line/surface treatment (triadimefon + cyproconazole + insecticide) for H1.2

- Update the approved treatments listed for H1.2 to reflect the requirements of Amendment 7 to Clause B2 Durability of the NZ Building Code

Issues

- Cost for an Amendment to a Standard
  - Limited scope
  - Standards NZ – $70K plus

- Recognition of Standards as a ‘means to comply’ to the NZ Building Code

- Need for full review of NZ 3640 (and NZS 3602)
Issues cont’d

- **Water-based and LOSP azole**
  - Bioequivalence demonstrated
  - Request to list under both H1.2 and H3.1 (different applications/durability requirements) but **same retention would apply**
    - List for both hazard classes or just for H3.1
  - Concern that low uptake processes may result in less than adequate preservative distribution
    - Proposal to introduce central ninth core retention

Issues cont’d

- **Micronized copper formulations**
  - Bioequivalence demonstrated
    - Copper quaternary and copper azole types
  - Definition for micronized was required
  - Draft amendment lists for hazard classes H3.2, H4, H5
  - Use in lower hazard class, i.e. H3.1, H1.2, is covered under clause that states high hazard class treatment satisfies the requirements for lower hazard class number
Issues cont’d

- **Dearomatised solvent (white spirit)**
  - AS 3530 reference standard does not include dearomatised solvents but does allow 'high' aromatic content
  - Approval will allow for 'cleaner' solvent options and more flexibility

Issues cont’d

- **Methylene chloride**
  - Only one treatment plant
Issues –cont’d

- **Glue-line plus surface treatment**
  (laminated veneer lumber, plywood)
  - NZS 3604 *Timber –frame buildings*
    - LVL and glulam can be used for timber framing
  - NZS 3640 is for solid wood but this is the Standard where the H1.2 approved treatments are listed
  - Draft Amendment 5 includes LVL
  - Triadimefon and cyproconazole are new actives

Issues cont’d

- **Adoption of changes to H1.2 from Amendment 7 of B2 Compliance document**
  - Iodocarb (IPBC) removed from H1.2
  - Tributyl tin compounds excluded as treatment for framing
  - Note: Copper naphthenate at H3.1 retention was already excluded for framing
Issues cont’d

- Boron is the only treatment listed under hazard class 1.2
  BUT other treatments from higher hazard classes are and can be used (unless specifically excluded)

- Application to list water based azole in both H1.2 and H3.1
  - differences of opinion on pros and cons for this
  - boron would be only approved H1.2 treatment
  - H1.2 and H3.1 have different performance requirements
    - H3.1 is higher hazard class; 15 year minimum service requirement; non-structural applications; paint protection
    - H1.2; structural application; 50 year minimum service requirement; protection by keeping timber ‘dry’; treatment part of risk management
  - data does not support a lower azole retention for H1.2
  - and what about the LOSP azole?

Recognition of Standards

- Department of Building & Housing (DBH) will determine if a new/amended Standard is suitable to be used in Compliance document

- The Department may cite entire Standard or just parts of it
Looking to future

- **NZS3640 draft Amendment 5**
  - Still ‘work in progress’
  - Review submissions from public consultation process
  - Final draft and Committee vote

- **The Standards describe what is required but not how to do it**
  - Timber Quality Scheme Standard Operating Procedures for Timber Treatment, or an equivalent, are very important

- **NZS 3640 (and NZS3602) need to be reviewed**
  - Amendment 5 is a technical amendment (limited scope)
  - Any review needs industry support/leadership and funding

Any questions?